IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: **ROBERT GIEHRL, ET AL.**

Serial No.: 10/526,161

Title: METHOD, DEVICE AND SYSTEM FOR DISPLAYING DATA OF A MACHINE CONTROL SYSTEM

Filed: AUGUST 21, 2003

Group Art Unit: 2121

Examiner: THOMAS H. STEVENS

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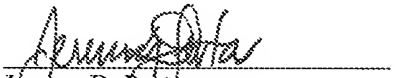

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APPEAL BRIEF

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Sir:

Pursuant to the Notice of Appeal filed December 13, 2007, in connection with the above-identified patent application, Appellants respectfully submit the instant Brief in Support of Appeal in accordance with 37 C.F.R. § 41.37. Appellants paid the appropriate $510 fee for the Appeal Brief, pursuant to 37 C.F.R. §41.20(b)(2), by credit card. If there are any additional fees or refunds required, the Commissioner is directed to charge or debit Deposit Account No. 13-2855 under Attorney Docket 30051/41004[1].

[1] Applicants note that throughout the prosecution of this Application, the Attorney Docket No. has been indicated interchangeably as 30071/41004 and 30051/41004. The correct Attorney Docket No. is 30051/41004.

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I. REAL PARTY IN INTEREST

The real party in interest in the application on appeal, United States Patent Application no. 10/526,161, is the assignee, KRONES AG, a German corporate entity, located at BOHMER WALSTRASSE 5, NEUTRAUBLING, GERMANY, D-93068. The assignment assigning rights to KRONES AG, is recorded June 23, 2005, in the United States Patent and Trademark Office ("USPTO") at Frame 0587 of Reel 016399.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF THE CLAIMS

Currently, claims 1-9 and 13-23 are pending in this application. The pending claims are presented in the Claims Appendix attached to this Brief. All pending claims, i.e., claims 1-9 and 13-23, stand rejected and form the subject matter of this appeal. Claims 10-12 stand canceled. The Office Action Summary indicates that claims 1-9, 13-21, and 23 are rejected, and that claim 22 is objected to. However, the Final Office action provides no indication as to why the Examiner objects to claim 22. Thus, Appellants treat claim 22 as objected to, and allowable if rewritten in independent form to include the base claim from which it depends, and any intervening claims. Additionally, claims 9 and 23 are indicated in the Summary to be rejected, but the Final Office action gives no explanations as to why the Examiner rejects claims 9 and 23. Instead, the language of claim 23 is quoted in the Office action's rejection of claim 22, leading Applicants to believe that the rejection is really of claim 23. Accordingly, in this Brief, Applicants treat claims 9 and 23 as rejected, though, by doing so, make no admission as to the propriety of the rejections' form or substance.

In view of the above, claims 1-9 and 13-23 stand rejected and under appeal.

IV. STATUS OF THE AMENDMENTS

Appellants filed no amendments subsequent to the Final Rejection, mailed August 14, 2007.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Although specification citations are inserted below in accordance with 37 C.F.R. § 41.37(c)(1)(v), these reference numerals and citations are merely examples of where support may be found in the specification for the terms used in this section of the brief. There is no intention to in any way suggest that the terms of the claims are limited to the examples in the specification. Although, as demonstrated by the reference numerals and citations below, the claims are fully supported by the specification as required by law, it is improper under the law to read limitations from the specification into the claims. Pointing out specification support for the claim terminology, as is done here to comply with 37 C.F.R. § 41.37(c)(1)(v), does not in any way limit the scope of the claims to those examples from which they find support. Nor does this exercise provide a mechanism for circumventing the law precluding reading limitations into the claims from the specification. In short, the reference numerals and specification citations are not to be construed as claim limitations or in any way used to limit the scope of the claims.

Unless otherwise specified, all citations to the specification refer both, by paragraph number, to the specification as published in U.S. Patent Application Publication No. US 2006/0149397 A1 (a copy of which is attached as Exhibit A) and, by page and line number, to the originally-filed specification.

With reference to Figs. 1, 5, and 6-8, independent claim 1 is directed to a method (Fig. 5) for displaying status data (61) of a machine control system (1). The method comprises the steps of receiving status data (step 52) for at least one element of the machine control system (1), the status data representing at least one physical state variable (paragraph [0042]; page 7, line 29, to page 8, line 1) and representing (step 53) a circuit diagram (Figs. 6-8) and status data (61, 71, 81), the status diagram indicating, at least for the element (62-67, 74-75, 82-85), the electrical connection of the element in the system (paragraph [0042]; page

8, lines 1-3), and the status data being represented in the circuit diagram (paragraph [0042]; page 8, lines 1-3).

Independent claim 21 is directed to a device for displaying data of a machine control system. The device comprises receiving means receiving means (for receiving status data for at least one element of the machine control system, the status data representing at least one physical state variable) and representing means (for representing the status data which have been received for the element (62-67, 74-75, 82-85) and for representing a circuit diagram (Figs. 6-8) which displays, at least for the element, the electrical connection of the element to other individual elements (62-67, 74-75, 82-85) in the system (1), and on which to display the status data). The receiving means includes an interface unit (27) of the device (paragraphs [0029]-[0030]; page 5, lines 12-15) providing a wireless and/or hard-wired connection to the machine control system (1) (paragraph [0032]; page 5, lines 26-27). The representing means include a user output unit (25), usually in the form of a monitor (18) (paragraph [0029], page 5, lines 11-12), but alternatively (or additionally) in the form of a loudspeaker, a printer, etc. (paragraph [0033]; page 6, lines 7-8).

Independent claim 23 is directed to a system comprising the device of claim 21 in combination with a machine control system.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The issues presented on appeal are:

A) Are each of pending claims 1-9 and 13-20 patentable over Welch, U.S. Patent No. 5,230,061?

B) Are each of pending claims 21-23 patentable over Dupree, U.S. Patent No. 5,949,994?

C) Is the phrase "mobile end device," recited in claims 11 and 21, disclosed within the originally-filed disclosure?

VII. ARGUMENT

Appellants submit that the final Office action misinterprets the present application and improperly relies on the Welch and Dupree references. Accordingly, under a proper interpretation of the present application, Appellants assert that all claims of the present application are in condition for allowance and respectfully request the Board to review and reverse each of the rejections and objections indicated in the final Office action.

A. The Office action improperly rejects claims 1-9 and 13-20 under 35 U.S.C. § 102(b) as being unaptentable over Welch (U.S. Patent No. 5,230,061).

Appellants submit that the Office action improperly rejects claims 1-9 and 13-20 under 35 U.S.C. § 102(b) because the Welch reference does not disclose all of the limitations recited by the claims. Particularly, the Welch reference does not disclose a method for displaying data of a machine control system, wherein the method comprises, in part: (1) representing a circuit diagram, which displays, at least for the element, an electrical connection of the element to other individual elements in the system; and (2) where the representation of the status data which have been received for the element occurs in the represented circuit diagram, as recited in independent claim 1.

1. The Office action improperly rejects claims 1-9 and 13-20 under 35 U.S.C. § 102(b) because Welch does not disclose representing a circuit diagram, which displays, at least for the element, an electrical connection of the element to other individual elements in the system.

Welch does not anticipate any of claims 1-9 or 13-20 because Welch fails to disclose representing a circuit diagram, which displays, at least for the element, an electrical connection of the element to other individual elements in the system, as recited in independent claim 1. The Office action states that Welch discloses "representing a control circuit diagram (figure 3 with column 7, lines 13-15), which displays, (display device, 48), at least for the element ("circuit element" as defined by Welch), an electrical connection

(example of connected electronic modules, figure 1 with column 6, lines 15-22) of the element (as defined by Welch) in the system." (*See* Office action, page 3.) The Office action also cites figure 2, element 34, as disclosing a control circuit diagram. (*See* Office action, page 9). A brief review of the cited portions of the Welch reference reveals that the Office action is clearly incorrect.

First, neither Figure 2 nor Figure 3 discloses *representing* a control circuit diagram. Figure 2 shows a block diagram indicating the components of the controller system, and element 34 of Figure 2 is "a control circuit," according to the disclosure of Welch (*see, e.g.*, Welch at column 7, line 2). The "control circuit" (34) shown in Figure 2 includes a PLC 36 (*see* Welch at column 7, line 2). The PLC 36 is coupled to a digital output module 38, through which *various status and machine function conditions* may be displayed on a suitable display device 48. (*see* Welch at column 7, lines 2-15). Welch, therefore, discloses a control circuit, represented in Figure 2 of the patent, which control circuit may represent *other information* (e.g., various status and machine function conditions) on a display device. Disclosing and diagramatically representing *a control circuit that may represent information* on a display device is not the same as disclosing *representing a control circuit diagram*, as recited in the claims of the present application. The Examiner appears to be confusing diagrammatically representing "a control circuit" *in a figure of a patent*, with representing "a control circuit diagram" to a user *as part of the claimed method.*

Figure 3 is a schematic diagram of a programmable logic controller system. The cited text of Welch, at column 7, lines 13-15, discloses that various status and machine function conditions may be displayed on a suitable display device. However, at no point does the disclosure in Welch describe *representing* the *diagram* of Figure 3 (or Figure 2, for that matter) *on* the display device. The mere fact, apparently relied upon by the Office action,

that the controller system includes a display 48, does not, without more, indicate that the display ever represents a diagram, much less one of the diagrams of Figures 2 or 3. In fact, at *no* point does the Office action provide support for the proposition that the representation of the control circuit diagram is ever represented or displayed. Welch simply does not disclose that any control circuit is ever represented as part of the control method, as recited in the claims of the present application. Again, the Examiner appears to be confusing diagrammatically representing "a control circuit" *in a figure of a patent*, with representing "a control circuit diagram" to a user *as part of the claimed method.*

Moreover, each of claims 1-9 and 13-20 recites that the representation of the control circuit diagram *displays, at least for the element, an electrical connection of the element in the system.* The Office action indicates that the PLC 58 in Figure 3 is the "element" of the control system (*see* Office action, page 3). Thus, it appears that the Office action is interpreting the line, in Figure 3, between PLC 58 and clause counter map inference engine 50 as a connection of the element (PLC 58) in the system. However, even if this interpretation were tenable, which Appellants do not concede, the content of *Figure 3 is never displayed anywhere other than in the patent specification* and, thus, Welch fails to disclose a method for displaying data of a machine control system that represents a control circuit diagram which displays, at least for the element, an electrical connection of the element in the system. For at least this reason, Welch cannot anticipate any of claims 1-9 and 13-20.

2. The Office action improperly rejects claims 1-9 and 13-20 under 35 U.S.C. § 102(b) because Welch does not disclose where the representation of the status data which have been received for the element occurs in the represented circuit diagram.

Additionally, Welch does not anticipate any of claims 1-9 and 13-20 because Welch fails to disclose that the representation of the status data which have been received for the element occurs in the represented circuit diagram. As described above, Welch does not disclose a method for displaying data for a machine control system that includes representing a control circuit diagram. Because Welch does not disclose a method that represents a control circuit diagram, it follows that Welch *cannot* disclose a method that represents, in a circuit diagram, status data received for an element. Therefore, Welch cannot anticipate any of claims 1-9 and 13-20, for this additional reason.

B. The Office action improperly rejects claims 21-23 under 35 U.S.C. § 102(b) as being unaptentable over Dupree (U.S. Patent No. 5,949,994).

Appellants submit that the Office action improperly rejects claims 21-23 under 35 U.S.C. § 102(b) because the Dupree reference does not disclose all of the limitations recited by the claims and, in particular, does not disclose a device or system comprising, in part: (1) representing means for representing the status data which have been received for the element and for representing a circuit diagram, which displays, at least for the element the electrical connection of the element to other individual elements in the system; and (2) where the representation of the status data which have been received for the element occurs in the represented circuit diagram.

1. The Office action improperly rejects claims 21-23 under 35 U.S.C. § 102(b) because Dupree does not disclose representing a circuit diagram, which displays, at least for the element, an electrical connection of the element to other individual elements in the system.

As with Welch, above, the Office action appears to be confusing diagrammatically representing "a circuit" *in a figure of a patent*, with representing "a circuit diagram" *in the claimed device or system.*

The Office action states that Dupree discloses "representing means for representing the status data (figure 5B, "data memory contents") which have been received for the element and for representing a circuit diagram (figure 3A), which displays, at least for the element the electrical connection (examples of OR gate connection, figure 15D) of the element to other individual elements in the system." (*See* Office action, page 7.) A brief review of the cited portions of the Dupree reference reveals that the Office action is clearly misguided.

First, Dupree does not disclose representing means for representing a circuit diagram. Figure 3A, cited by the Office action as disclosing representing means for representing a circuit diagram, depicts a detailed block diagram of the context-cycling microprocessor shown in Figure 1 (*see* Dupree at column 5, lines 15-17). If the Office action is suggesting, as appears to be the case, that the figure depicted in Figure 3A is ever displayed or represented by the system disclosed in Dupree (as opposed to being represented in the Dupree patent itself), the Office action is clearly mistaken. Fig. 3A is merely a figure in the patent, and not a representation displayed by a method performed by a system.

Second, even if Figure 3A were represented by the system or device disclosed by Dupree, and Applicants maintain no such interpretation can stand, Dupree does not disclose that the representation "displays, at least for the element the electrical connection of the element to other individual elements in the system." Here, the Office action cites Figure

15D, though it is unclear to the Applicants why, or what the Office action intends to convey. Figure 15D depicts a block diagram for the memory management unit shown in Figures 3A and 3B. Once again, if the Office action is suggesting, as appears to be the case, that the content depicted in Figure 15D is ever displayed or represented by the system disclosed in Dupree, the Office action is clearly mistaken. As with Fig. 3A, Fig. 15D is merely a figure in a patent.

There is simply no tenable interpretation of Dupree that could lead one of ordinary skill in the art to believe that Dupree discloses a device or system that represents a circuit diagram, which displays, at least for the element, an electrical connection of the element to other individual elements in the system. For at least this reason, Dupree cannot anticipate claims 21-23.

2. The Office action improperly rejects claims 21-23 under 35 U.S.C. § 102(b) because Dupree does not disclose where the representation of the status data which have been received for the element occurs in the represented circuit diagram.

Additionally, Dupree does not anticipate any of claims 21-23 because Dupree fails to disclose that the representation of the status data which have been received for the element occurs in the represented circuit diagram. As described above in Section VII.B of this Appeal Brief, Dupree does not disclose a device of a system that represents a circuit diagram. Because Dupree does not disclose a device or system that represents a circuit diagram, it follows that Dupree *cannot* disclose a device or system that represents, in a circuit diagram, status data received for an element. Therefore, Dupree cannot anticipate any of claims 21-23.

C. The Office action improperly objects to the specification as failng to provide support in the original disclosure for the phrase "mobile end device."

The originally-filed disclosure provides support for the phrase "mobile end device," and, therefore, the Office action improperly objects to the specification. Appellants, in a response mailed May 22, 2007, directed the Examiner's attention to paragraph [0027] of the published specification. Paragraph [0027] of the published specification corresponds to paragraph [0019] of the originally-filed specification. In the final Office action, however, the Examiner cited paragraph [0027] of the originally-filed application. Paragraph [0027] of the published application (U.S. Patent Application Publication No. 2006/0149397 A1), and therefore, paragraph [0019] of the originally-filed application reads as follows:

> FIG. 2 shows functional units of a device according to the invention, where the device is also referred to as the end device below. *Such an end device can be, for example, a mobile service or maintenance terminal.* The system according to the invention is formed by the end device and machine control system. (emphasis added)

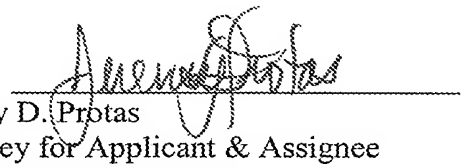
Thus, the originally-filed application discloses support for the phrase "mobile end device." For at least this reason, the objection to the specification is improper and should be withdrawn.

VIII. CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that each of claims 1-9 and 13-23 is patentable over Welch, and that all of the pending claims should be allowed.

Respectfully submitted,

DATED: February 11, 2008

By: 

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CLAIMS APPENDIX

1. Method for displaying data of a machine control system comprising:

receiving status data for at least one element of the system, which represent at least one physical state variable;

representing the status data which have been received for the element;

representing a circuit diagram, which displays, at least for the element, an electrical connection of the element to other individual elements in the system;

where the representation of the status data which have been received for the element occurs in the represented circuit diagram.

2. Method according to Claim 1, where the representation of the circuit diagram occurs using a characterization, which has been stored for the element, and associated connection data, which represent the electrical connection of the element in the system.

3. Method according to Claim 2, where the characterization allows the association of the element with its status data.

4. Method according to Claim 1, where the status data are displayed one of at or on the represented element in the circuit diagram.

5. Method according to Claim 1, where the step of receiving the status data also comprises an identification of elements, which are to be represented in the circuit diagram, where the representation of the status data for the identified elements occurs.

6. Method according to Claim 1, where, in response to user input, which establishes a preset value for the represented status data, the preset value is set as a value for the corresponding state variable in the machine control system.

7. Method according to Claim 1, where corresponding target values are displayed with the status data for the element.

8. Method according to Claim 1, where corresponding limit values are displayed with the status data for the element.

9. Method according to Claim 1, where previous status data for the element are represented, which indicate at least one previous value for the state variable.

10-12. (Cancelled)

13. Method according to Claim 2, where the step of receiving the status data also comprises an identification of elements, which are to be represented in the circuit diagram, where the representation of the status data for the identified elements occurs.

14. Method according to Claim 2, where, in response user input which establishes a preset value for the represented status data, the preset value is set as a value for a corresponding state variable in the machine control system.

15. Method according to Claim 5, where, in response to the user input which establishes a preset value for the represented status date, the preset value is set as a value for the corresponding state variable in the machine control system.

16. Method according to Claim 2, where corresponding target values are displayed with the status data for the element.

17. Method according to Claim 2, where corresponding limit values are displayed with the status data for the element.

18. Method according to Claim 7, where corresponding limit values are displayed with the status data for the element.

19. Method according to Claim 7, where previous status data for the element are represented which indicate at least one previous value for the state variable.

20. Method according to Claim 8, where previous status data for the element are represented which indicate at least one previous value for the state variable.

21. Device for displaying data of a machine control system, said device comprising:

receiving means for receiving status data for at least one element of the system, which represent at least one physical state variable;

representing means for representing the status data which have been received for the element and for representing a circuit diagram, which displays, at least for the element the electrical connection of the element to other individual elements in the system;

where the representation of the status data which have been received for the element occurs in the represented circuit diagram.

22. Device according to claim 21, where the device is a mobile end device, which is used for one of the startup process, maintenance or error diagnosis of a machine control system.

23. A system comprising a device in combination with a machine control system, wherein said device is adapted to display data of the machine control system, said device comprising:

receiving means for receiving status data for at least one element of the system, which represent at least one physical state variable;

representing means for representing the status data which have been received for the element and for representing a circuit diagram, which displays, at least for the element, the electrical connection of the element to other individual elements in the system;

where the representation of the status data which have been received for the element occurs in the represented circuit diagram.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.